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(19) (CA) **CANADIAN PATENT** (12)

(54) Remote Controlled Spotlight System

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(30) (US) U.S.A. 245,033 1988/09/12

(57) 15 Claims

Canada

ABSTRACT OF THE DISCLOSURE

A remote controlled spotlight system having a pair of spotlights on the ends of a horizontal shaft extending through a housing. A vertical shaft extends out of the housing for mounting purposes. An electric
5 motor in the housing rotates the horizontal shaft about its longitudinal axis to aim the spotlights up or down. A second electric motor in the housing rotates the housing about the longitudinal axis of the vertical shaft to aim the spotlights left or right. The
10 electrical motors are remotely controlled. An electrical power cord extends through the bore of the horizontal shaft, out through a hole in the horizontal shaft, and winds around the horizontal shaft at least twice. The cord then winds around the vertical shaft
15 at least twice, and then passes through the bore of the vertical shaft to a power source.

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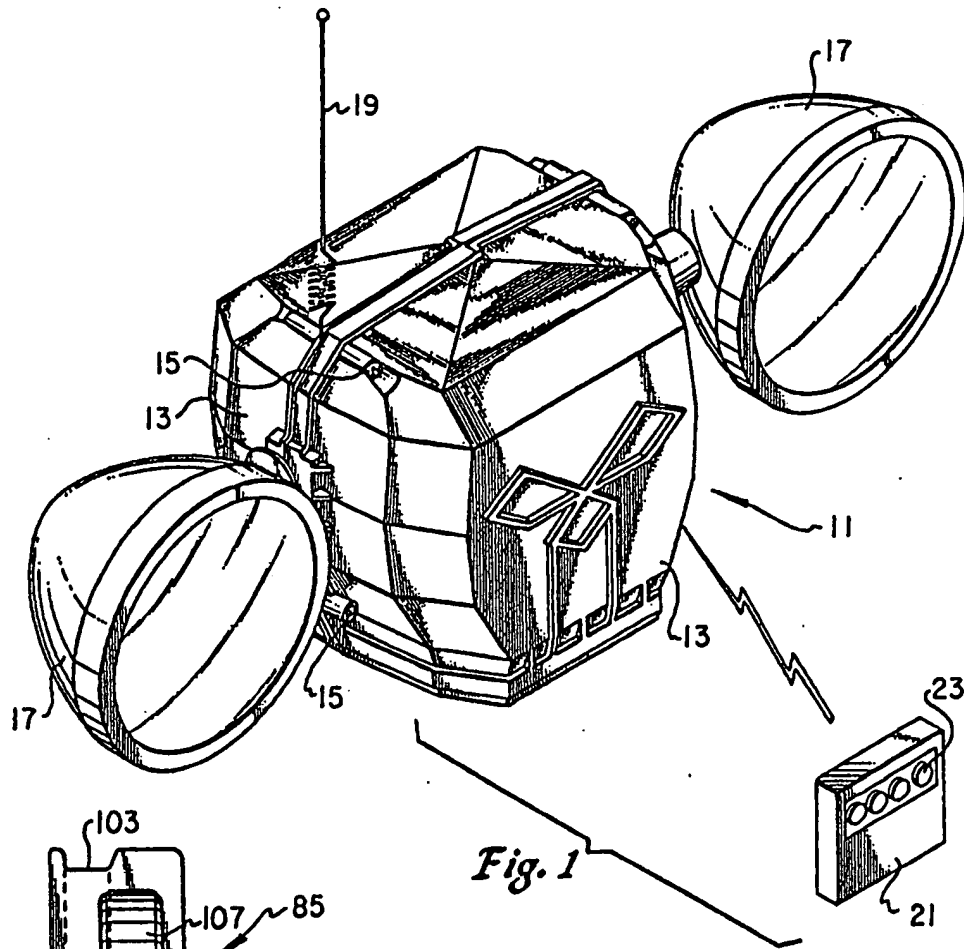


Fig. 1

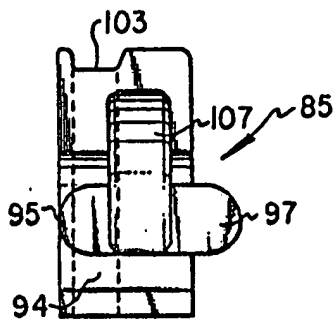


Fig. 6

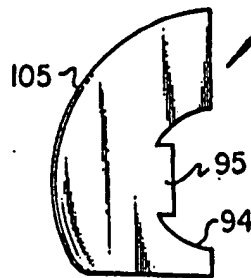


Fig. 7

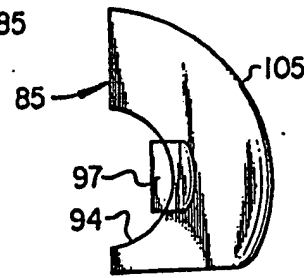


Fig. 8

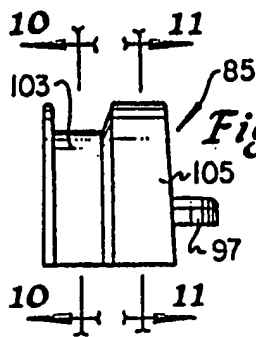


Fig. 9

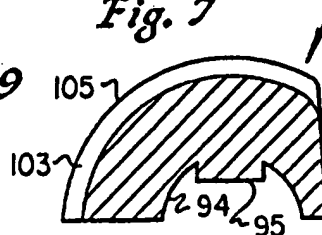


Fig. 10

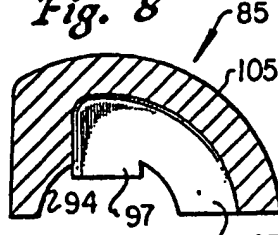


Fig. 11

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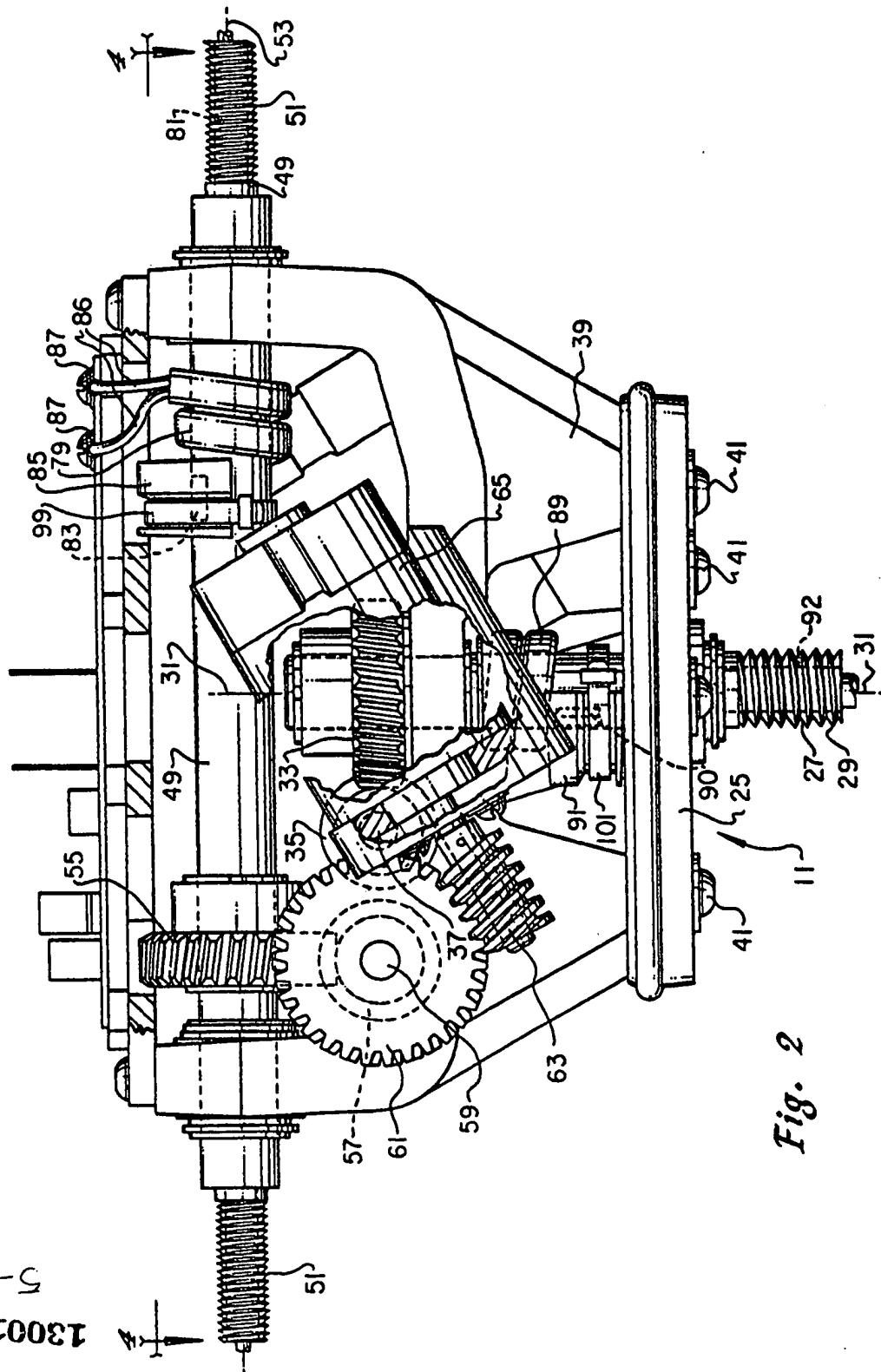


Fig. 2

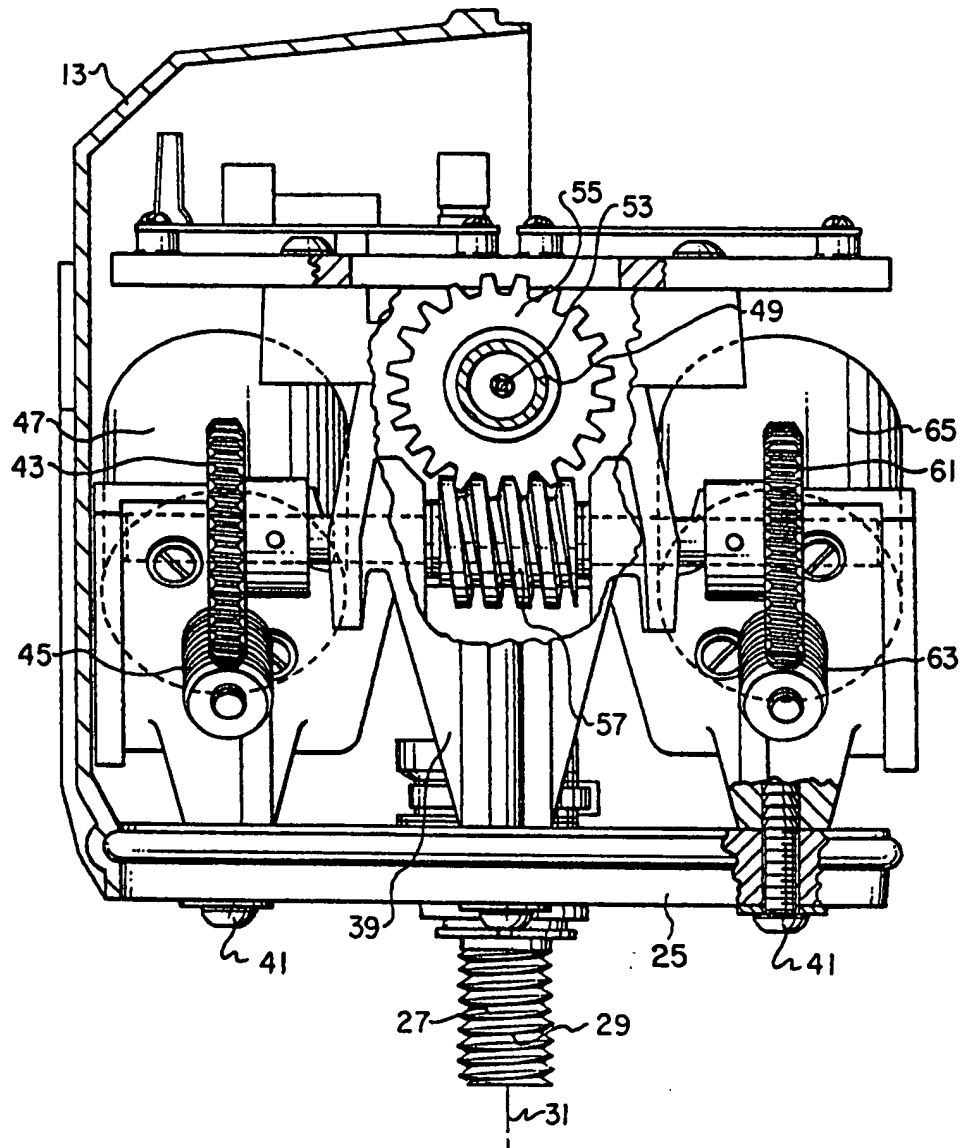


Fig. 3

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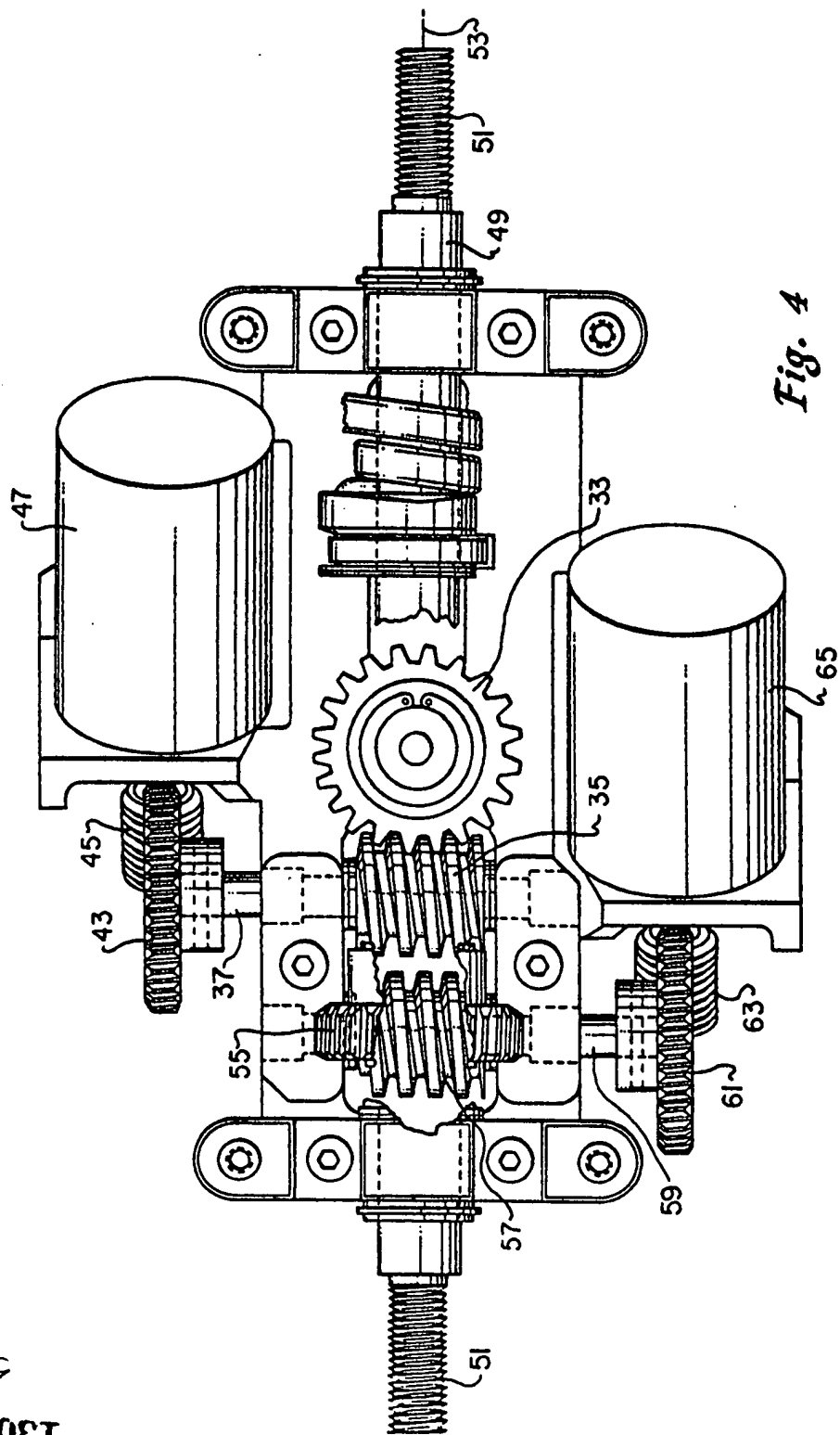


Fig. 4

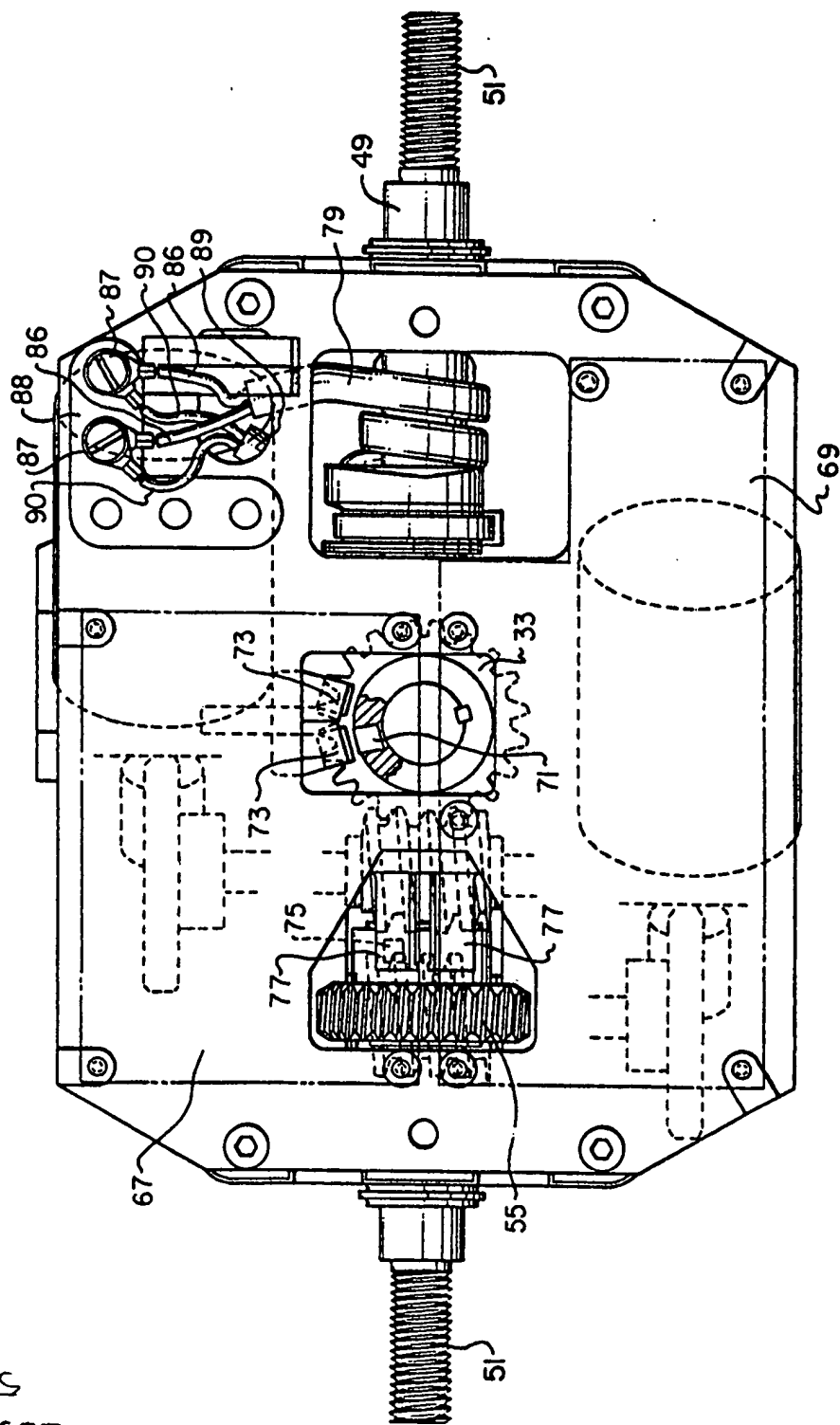


Fig. 5

CLAIMS

1. A remote controlled spotlight system, comprising:
 - a horizontal shaft having a longitudinal axis and a bore;
 - a light mounted on the horizontal shaft;
 - means for rotating the horizontal shaft about the longitudinal axis of the horizontal shaft;
 - a vertical shaft having a longitudinal axis and a bore;
 - means for rotating the horizontal shaft about the longitudinal axis of the vertical shaft;
 - control means for remotely controlling the means for rotating the horizontal shaft about the longitudinal axis of the horizontal shaft and the means for rotating the horizontal shaft about the longitudinal axis of the vertical shaft; and
 - an electrical power cord extending from the light through the bore of the horizontal shaft, out through a hole in the horizontal shaft, at least once around the vertical shaft, and then into the bore of the vertical shaft.
2. The remote controlled spotlight system as recited in claim 1, wherein the power cord extends at least twice around the horizontal shaft.
3. The remote controlled spotlight system as recited in claim 1, wherein the power cord extends at least twice around the vertical shaft.
4. The remote controlled spotlight system as recited in claim 2, wherein the power cord extends at least twice around the vertical shaft.
5. A remote controlled spotlight system, comprising:
 - a horizontal shaft having a longitudinal axis and a bore;
 - a light mounted on the horizontal shaft;

means for rotating the horizontal shaft about the longitudinal axis of the horizontal shaft;

a vertical shaft having a longitudinal axis and a bore;

means for rotating the horizontal shaft about the longitudinal axis of the vertical shaft;

control means for remotely controlling the means for rotating the horizontal shaft about the longitudinal axis of the horizontal shaft and the means for rotating the horizontal shaft about the longitudinal axis of the vertical shaft;

an electrical power cord extending from the light through the bore of the horizontal shaft, out through a hole in the horizontal shaft, at least once around the horizontal shaft, at least once around the vertical shaft, and then into the bore of the vertical shaft; and

a wire winder mounted on the horizontal shaft for guiding the power cord.

6. The remote controlled spotlight system as recited in claim 5, wherein the wire winder has a curved slot that guides the power cord out of the hole in the horizontal shaft and at least one quarter of a revolution around the horizontal shaft.

7. A remote controlled spotlight system, comprising:
a housing;

a horizontal shaft, having a longitudinal axis and a bore, mounted in the housing so that each end of the horizontal shaft extends out of the housing;

a pair of spotlights mounted on the ends of the horizontal shaft;

a first electric motor, mounted in the housing for rotating the horizontal shaft about the longitudinal axis of the horizontal shaft;

a vertical shaft having a longitudinal axis and a bore, and extending out of the housing;

a second electric motor, mounted in the housing, for rotating the housing about the longitudinal axis of the vertical shaft;

a remote controller for remotely controlling the first and second electric motors; and

an electrical power cord extending from the spotlights through the bore of the horizontal shaft, out through a hole in the horizontal shaft, at least once around the horizontal shaft, at least once around the vertical shaft, and then into the bore of the vertical shaft.

8. The remote controlled spotlight system as recited in claim 7, wherein the power cord extends at least twice around the horizontal shaft.

9. The remote controlled spotlight system as recited in claim 7, wherein the power cord extends at least twice around the vertical shaft.

10. The remote controlled spotlight system as recited in claim 8, wherein the power cord extends at least twice around the vertical shaft.

11. A remote controlled spotlight system, comprising:
a housing;

a horizontal shaft, having a longitudinal axis and a bore, mounted in the housing so that each end of the horizontal shaft extends out of the housing;

a pair of spotlights mounted on the ends of the horizontal shaft;

a first electric motor, mounted in the housing for rotating the horizontal shaft about the longitudinal axis of the horizontal shaft;

a vertical shaft having a longitudinal axis and a bore, and extending out of the housing;

a second electric motor, mounted in the housing, for rotating the housing about the longitudinal axis of

the vertical shaft;

control means for remotely controlling the first and second electric motors;

an electric power cord extending from the spotlights through the bore of the horizontal shaft, out through a hole in the horizontal shaft, at least once around the horizontal shaft, at least once around the vertical shaft, and then into the bore of the vertical shaft; and

a wire winder mounted on the horizontal shaft for guiding the power cord.

12. The remote controlled spotlight system as recited in claim 11, wherein the wire winder has a curved slot that guides the power cord out of the hole in the horizontal shaft and at least one quarter of a revolution around the horizontal shaft.

13. A remote controlled spotlight system, comprising:
a first shaft having a longitudinal axis and a bore;

a light mounted on the first shaft;

a first electric motor for rotating the first shaft about the longitudinal axis of the first shaft;

a second shaft having a bore and a longitudinal axis perpendicular to the longitudinal axis of the first shaft;

a second electric motor for rotating the first shaft about the longitudinal axis of the second shaft;

a remote controller for remotely controlling the first and second electric motors;

an electric power cord extending from the light through the bore of the first shaft, out through a hole in the first shaft, at least once around the first shaft, at least once around the second shaft, and then into the bore of the second shaft; and

a wire winder mounted on the first shaft for guiding the power cord.

14. A remote controlled spotlight system, comprising:
 - a first shaft having a longitudinal axis and a bore;
 - a light mounted on the first shaft;
 - a first electric motor for rotating the first shaft about the longitudinal axis of the first shaft;
 - a second shaft having a bore and longitudinal axis perpendicular to the longitudinal axis of the first shaft;
 - a second electric motor for rotating the first shaft about the longitudinal axis of the second shaft;
 - a remote controller for remotely controlling the first and second electric motors;
 - an electric power cord extending from the light through the bore of the first shaft, out through a hole in the first shaft, at least once around the first shaft, at least once around the second shaft, and then into the bore of the second shaft;
 - a magnet imbedded in the first shaft; and
 - a pair of hall effect switches for sensing the location of the magnet and for shutting off the first electric motor to limit the rotation of the first shaft about the longitudinal axis of the first shaft.
15. A remote controlled spotlight system as recited in claim 14, further comprising:
 - a magnet imbedded in the second shaft; and
 - a pair of hall effect switches for sensing the location of the magnet in the second shaft and for shutting off the second electric motor to limit the rotation of the first shaft about the longitudinal axis of the second shaft.

